COMMONWEALTH OF MASSACHUSETTS

OFFICE OF CONSUMER AFFAIRS & BUSINESS REGULATION

DIVISION OF ENERGY RESOURCES

MASSACHUSETTS
RENEWABLE ENERGY PORTFOLIO STANDARD

GUIDELINE
ON THE
MA RPS ELIGIBILITY OF GENERATION UNITS THAT RE-TOOL WITH LOW EMISSION, ADVANCED BIOMASS TECHNOLOGIES

April 16, 2004

1.0 INTRODUCTION

This Guideline interprets the regulations for the Massachusetts Renewable Energy Portfolio Standard (RPS)[1] as they pertain to RPS qualification of electricity Generation Units[2] that are repowered, retrofitted or replaced (those three terms hereafter covered by the single term "retooled"), particularly those with a Commercial Operation Date up to and including December 31, 1997. The Guideline addresses the definitions of "Vintage Generation Unit" and "site of Vintage Generation," as well as when "Vintage Waivers" are applicable.

The Guideline does not change the RPS regulations. Rather, the Guideline represents DOER's interpretation of the RPS regulations and of the statute[3] on which they are based.

The Guideline answers the following question:

> *If a biomass fueled power plant that (a) began commercial operation before 1998, and (b) does not meet the technology criteria for RPS-eligibility of biomass plants in the RPS regulations at 14.05(1)(a)6, is retooled so that it does meet those criteria, and it applies for qualification as a New Renewable Generation Unit, then will DOER find that it could be qualified only as a Vintage Generation Unit requiring recourse to the Vintage Waiver provision, or could the plant qualify without such recourse?*

[1] The regulations for RPS may be viewed via a link at http://www.state.ma.us/doer/rps/regs.htm. Hereafter, all references to those regulations will be to sections 14.00 et seq. of 225 CMR.
[2] Terms that are capitalized in this document are defined either in the RPS regulations or in this document itself.
[3] The RPS regulations were promulgated pursuant to M.G.L. c.25A, § 11F, which may be accessed at http://www.state.ma.us/legis/laws/mgl/25a-11f.htm.

DOER's answer, provided in this Guideline, is that such a plant would *not* be regarded as a Vintage Generation Unit and hence would *not* require a Vintage Waiver; consequently, if DOER grants a Statement of Qualification, the entire future electricity output of the plant would qualify as New Renewable Generation and earn RPS-qualified GIS certificates ("RPS certificates").[4]

2.0 GUIDELINE OF THE MA RPS REGULATIONS

2.1 Qualification of Repowered, Retrofitted, or Replaced Generation Units

The RPS regulations provide that a Generation Unit may qualify as a New Renewable Generation Unit if it meets the criteria in the RPS regulations at 14.05(1).[5] Under the regulations, DOER would apply those same criteria to a unit that, prior to retooling, had not met those criteria. In the case of retooling an older unit, one which had *not* met those criteria during the three year period up to and including December 31, 1997, DOER interprets the regulations to mean that, if the unit meets all of the New Renewable Generation Unit qualification criteria at section 14.05(1), including a post-retooling Commercial Operation Date after December 31, 1997, DOER may determine that the unit qualifies as a New Renewable Generation Unit regardless of its former ineligibility. In such a case, DOER may deem the unit so qualified without applying the provisions of a Vintage Waiver at 14.05(2), as explained below.

2.2 Applicability of the Vintage Waiver

The applicability of a Vintage Waiver derives from the definition of a Vintage Generation Unit in the regulations at 14.02, as follows:

> Vintage Generation Unit. A Generation Unit that meets the requirements of 225 CMR 14.05 (1) (a) and that has a Commercial Operation Date of December 31,1997, or earlier.

DOER interprets that definition to apply only if both conditions of the definition are true. If either one of the conditions is not true, then the definition does not apply. Thus, the definition does *not* apply if the unit has a Commercial Operation Date *after* December 31, 1997. The definition also does *not* apply in the case of a unit that began commercial operation *before* 1998 and did *not* meet the requirements of 14.05(1)(a). The Commercial Operation Date criterion has been clearly understood by RPS participants and other stakeholders. However, what DOER here terms the "technical" criteria of the regulations at 14.05(1)(a) has been the subject of some uncertainty, especially pertaining to the retooling of pre-1998 biomass units.

A Vintage Waiver under section 14.05(2) is required in order for DOER to deem qualified as a New Renewable Generation Unit only a unit that meets *all* of the criteria under section 14.05(1) *except* for the provisions at 14.05(1)(b) and/or at 14.05(1)(d)3. Under 14.05(1)(b), the Commercial Operation Date of the unit must "be after December 31, 1997, unless the Generation

[4] See the definition of "NE-GIS Certificate" in the RPS regulations at 14.02. The NE-GIS, as defined in the RPS regulations, refers to the NEPOOL GIS, which is an electronic database located on-line at https://www.nepoolgis.com/.

[5] The formal RPS qualification of a unit as a New Renewable Generation Unit is in the form of a Statement of Qualification from DOER, as provided at 14.06(1).

Unit receives a Vintage Waiver pursuant to 225 CMR 14.05 (2)." Under 14.05(1)(d)3, if a Generation Unit "is located on or in a parcel of land, landfill or structure that was the site of Vintage Generation between the years 1995 through 1997, such Unit must receive a Vintage Waiver pursuant to 225 CMR 14.05 (2)."[6]

As DOER interprets its regulations, DOER may deem a unit qualified as a New Renewable Generation Unit if that unit did not meet the technical criteria of 14.05(1)(a) during its operation prior to January 1, 1998, but thereafter retooled to meet those technical criteria. Because such a unit does not qualify as a Vintage Generation Unit, DOER may deem the unit qualified as a New Renewable Generation Unit without applying the provisions of a Vintage Waiver at 14.05(2).

2.3 Examples of the Non-applicability of the Vintage Waiver

Several examples should serve to demonstrate the applicability of this interpretation.

- If a unit burning sawmill and forestry debris (Eligible Biomass Fuels) with stoker combustion technology since 1993 were to be retrofitted in 2004 with state-of-the-art, gasification or fluidized bed equipment[7] (and associated trim) and modern emission controls,[8] and if the unit also met the metering and locational criteria of CMR 14.05(1), then DOER's determination of whether the unit is qualified as a New Renewable Generation Unit would not consider the Vintage Waiver provisions. In this case, the unit in its pre-1998 condition was not a Vintage Generation Unit because it did not meet one of the technical criteria of 14.05(1), namely the categorical exclusion of stoker combustion as an "advanced biomass power conversion technology" at 14.05(1)(a)6.[9]
- If a coal-fueled unit dating from 1982 was retrofitted and repowered in 2003 as a plant using an Eligible Biomass Fuel and a technology that met the current DOER criteria for low-emission[10] and for advanced biomass power conversion technology, and the unit also met the metering and locational criteria of 14.05(1), then DOER's determination of whether the unit is qualified as a New Renewable Generation Unit would not consider the Vintage Waiver provisions. This would be the case even if some of the older equipment remained

[6] Vintage Generation is defined at 14.02 as the "electrical energy output of a Vintage Generation Unit during the calendar years 1995 through 1997."

[7] The equipment would have to meet the RPS regulatory criterion, at 225 CMR 14.05(1)(a)6 of "advanced biomass power conversion technologies," the standards for which are being established by DOER's issuance of Advisory Rulings and Statements of Qualification.

[8] With regard to the low emission criteria of 14.05(1)(a)6, DOER relies upon the advice of the Massachusetts Department of Environmental Protection, as provided in that subsection.

[9] This interpretation with regard to biomass plants is consistent with the RPS statutory language at M.G.L. Chapter 25A, Section 11F. Paragraph (b) of Section 11F provides a list of what is considered to be a "renewable energy generating source" for the purposes of that section. In the case of biomass, the language specifies "(viii) low emission, advanced biomass power conversion technologies . . ." The next sentence in that paragraph goes on to state, "The division [DOER] may also consider any previously operational biomass facility retrofitted with advanced conversion technologies as a renewable energy generating source." Thus, for the purposes of RPS, the statute regards any "previously operational" (i.e., operational on or before December 31, 1997) biomass plant that does not use "low-emission, advanced biomass power conversion technologies" as *not* being a "renewable energy generating source." In effect, such a plant is treated in the statute no differently than other non-renewable plants (such as coal or oil fired plants).

[10] See footnote 8.

part of the unit. In this case, the unit in its former condition was not a Vintage Generation Unit because it had not used an Eligible New Renewable Fuel.[11] A concrete example of this is the proposed retooling of the coal-fired, steam generator Unit 5 of Schiller Station in Portsmouth, NH, for which DOER issued an Advisory Ruling on October 27, 2003.[12]

- If a 1980 unit that did not meet the technical eligibility criteria of 14.05(1) was demolished in 2001 and replaced in 2003 with a new unit that did meet all of the those criteria, then DOER's determination of whether the unit is qualified as a New Renewable Generation Unit would not consider the Vintage Waiver provisions. In this case the demolished unit was not a Vintage Generation Unit because it did not meet the technical eligibility criteria of 14.05(1), and, therefore, the site was not a site of Vintage Generation, as defined in 14.05(1)(d)3.[13]

3.0 POLICY IMPLICATIONS OF THIS GUIDELINE

Although this Guideline is driven by the language of the RPS statute and regulations, and not by its impact on the marketplace, DOER is aware that the Guideline will have impacts of public policy interest. DOER expects that the most direct impact will be expanded opportunities for the development of New Renewable Generation Units during the next few years. In fact, owners of some existing, RPS-ineligible, biomass-fueled plants have already inquired as to their eligibility if they retool their plants. DOER cannot predict the magnitude of the expanded opportunity because each existing plant will have its own set of circumstances that may facilitate or inhibit upgrading to RPS eligibility (existing power contracts, type and condition of existing equipment, physical space at the facility, fuel supply, financial viability, etc.). However, DOER expects the overall impacts to be beneficial and supportive of the intentions of the statute that established RPS, as well as providing energy, economic, and environmental benefits to the region.

Specifically, this Guideline is likely to affect the following areas of public policy concern:

1. Supply and price of Massachusetts RPS certificates
2. Biomass technology advances and industry growth for electricity generation
3. Energy supply diversity
4. Air quality impacts of the electric power sector
5. Regional, net, greenhouse gas emissions
6. Economic viability of sites of existing biomass-fired power plants
7. Jobs and the rural economy in the northern forest areas

[11] Because the unit in its pre-1998 condition burned coal, which – like other fossil fuels (peat, oil, natural gas, etc.), municipal solid waste, and nuclear fuel – is not an Eligible Renewable Fuel.

[12] Advisory Rulings and related documents can be accessed on line at http://www.state.ma.us/doer/rps/advisory.htm. It should be noted that the Schiller unit is cited here for illustrative purposes only. Although DOER provided an Advisory Ruling for the proposed project at Schiller on October 27, 2003, its owners have not yet applied (as of the date of this Guideline) for a Statement of Qualification for the plant as a New Renewable Generation Unit.

[13] This would be the case if the demolished plant used RPS-ineligible fuels (fossil fuels, etc.), or used an eligible fuel (e.g., wood chips) with stoker combustion.

8. The health and diversity of forests and forest habitats

The first six of the above are policy concerns of DOER, while the others, although no less important in a broader public policy context, are not under the purview of DOER. The first six are briefly discussed below.

1. **Supply and price of Massachusetts RPS certificates**
   This Guideline is expected to provide increased incentive for the retooling of existing biomass plants (and possibly the retrofitting and repowering of some fossil plants) to meet RPS eligibility. That should, in turn, result in an increased supply of RPS certificates, which should help Retail Electricity Suppliers in Massachusetts to meet their annually increasing demand for such certificates for RPS compliance with relatively less recourse to Alternative Compliance Payments.[14] If that occurs, then the cost to affected Massachusetts retail electricity customers may be relatively less, as compared to the cost absent the Guideline. If the supply of RPS certificates, as a consequence of this Guideline, were to exceed demand in a given calendar year, then the price of that year's certificates may decline. If, on the other hand, the supply of RPS certificates were to be less than the demand in a given calendar year, then the Guideline may have comparatively little or no impact on the price of the certificates.

   DOER believes that the latter scenario seems most likely, at least in the short term, due to the following factors: (a) the annually increasing requirement of the MA RPS, (b) additional demand to meet Connecticut RPS requirements, (c) the prospects of RPS regulations in New York and revisions in the Maine RPS, and (d) the growing voluntary market for renewable certificates (a.k.a. the "green power market"). Projections of medium to long term price impacts cannot be confidently made, due to uncertainties regarding the following: (a) growth rates in other sources of supply, (b) RPS decisions pending in neighboring states, and (c) the possibility of an eventual national RPS of unknown requirements. .

2. **Biomass technology advances and industry growth for electricity generation**
   This Guideline – by providing RPS qualification as an incentive to retrofit or replace existing facilities with newer, RPS-eligible technologies – should, at the very least, bring new business activity (and job growth) to firms that design, manufacture, and install new technologies for bioenergy conversion. This increased activity may also provide incentive for advances in biomass technologies for electricity production, and thereby help to move New England into a leadership position for these renewable technologies.

3. **Energy supply diversity**
   Biomass is likely to be one of the largest energy sources of electricity generation eligible under the RPS regulations (in terms of output, if not capacity). This Guidance should provide incentives to increase the amount of electricity generated from existing biomass plants retooled for RPS eligibility, thereby helping to increase the total amount of electricity for Massachusetts consumers that derives from renewable resources. Increasing the renewables share increases the diversity of the energy supply. Increased diversity, in turn, reduces the risk of energy supply interruptions and price spikes.

[14] Alternative Compliance is a procedure provided in the RPS regulations at 14.08(4).

4. **Air quality impacts of the electric power sector**
   Retooled biomass plants – with RPS-qualified, "low emission, advanced biomass power conversion technologies" – would produce electricity with lower air emission rates than their predecessors and possibly with lower fuel requirements per quantity of electricity output, as well. The latter would result in less pollution per unit of electricity generated. Although even retooled biomass-fueled plants emit more nitrogen oxides and particulates than natural gas-fueled plants, they share with natural gas virtually no emission of sulfur dioxide. In any case, this Guideline does not limit the retooling of existing, ineligible Generation to biomass plants alone. The Schiller unit in Portsmouth, NH, is a case in point.

5. **Regional, net, greenhouse gas emissions**
   Biomass fuel use can be carbon neutral, since the fuel comes from trees and other vegetation that sequester carbon from the atmosphere. Moreover, much of the carbon dioxide emissions from biomass combustion is recycled by carbon sequestration into new growth, which can be enhanced, in turn, by modern sustainable forestry practices. Unlike the carbon (as carbon dioxide) from fossil fuel combustion, the carbon from biomass combustion is part of a contemporaneous cycle through the environment. Thus, the RPS regulations, as interpreted in this Guidance, can contribute to reducing the net emission of greenhouse gases in Massachusetts and the region, supportive of the state and regional climate change action plans.

6. **Economic viability of sites of existing biomass-fired power plants**
   The Guideline, by providing incentives to generate electricity at some existing biomass plants, provided they are retooled for RPS eligibility, may enable those plants to remain in operation. Currently, some older biomass plants are closed, while others are threatened with closure or operate at reduced capacity. The continued viability of such facilities should contribute to sustaining jobs and the rural economy, especially in forested areas, and should indirectly contribute to the health of the region's forests.

In sum, DOER expects the Guideline to provide an interrelated set of benefits in areas of public policy concern that are consistent with the intent of the law and the RPS regulations as promulgated and interpreted by DOER.

4.0 EFFECTIVENESS

The Guideline is effective immediately upon its issuance.

DOER will use the Guideline in evaluating any relevant Statement of Qualification applications and requests for Advisory Rulings that may already have been submitted to DOER but not yet acted upon, as well as those not yet submitted.